

Exhibit O

HIGHLY CONFIDENTIAL – SUBJECT TO PROTECTIVE ORDER

**UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA**

UNITED STATES OF AMERICA,
et al.,

Plaintiffs,

v.

GOOGLE LLC,

Defendant.

Case No. 1:23-cv-00108-LMB-JFA

**Expert Report of Judith A. Chevalier
January 23, 2024**

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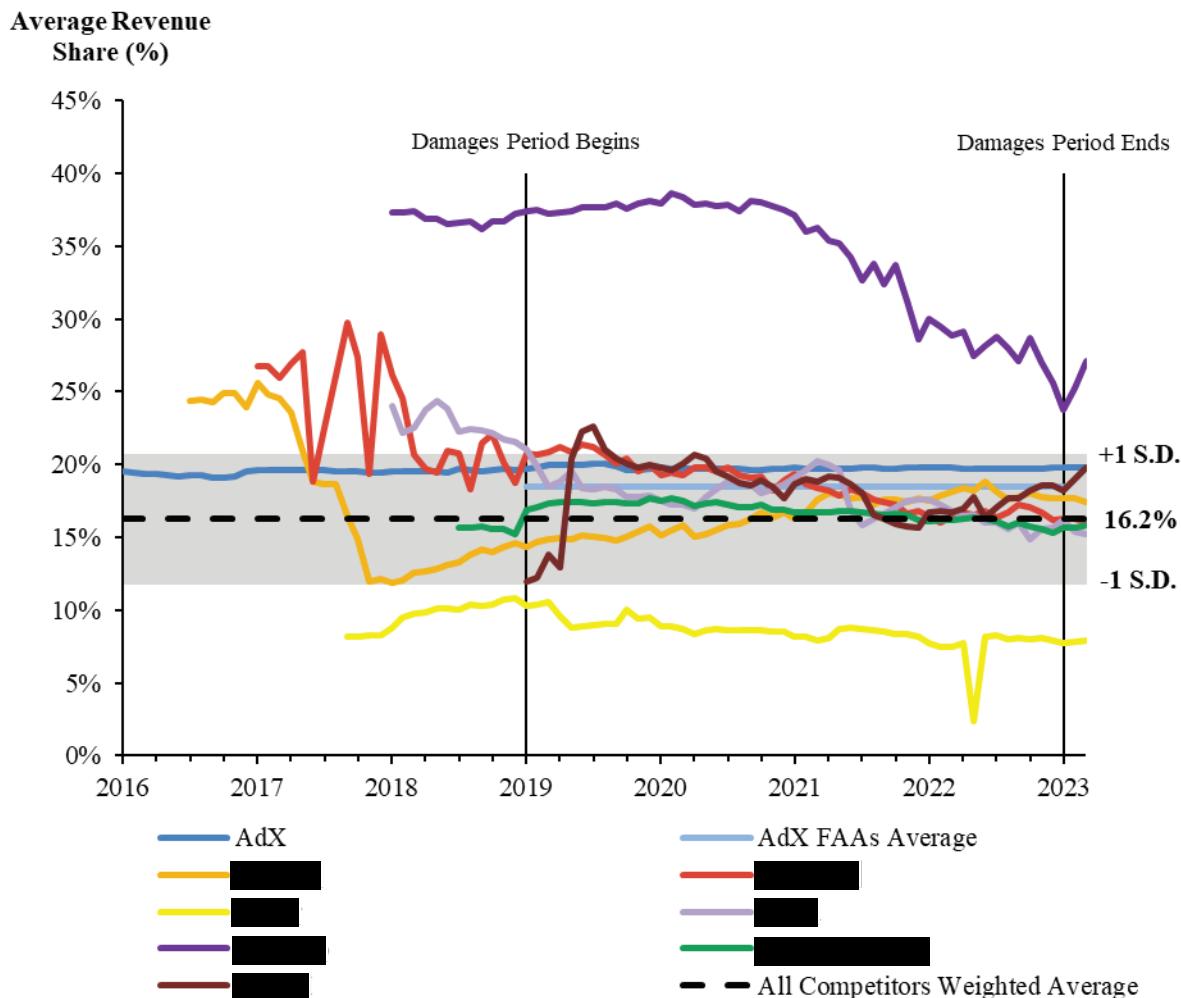
c) Prof. Simcoe's Analysis Obscures the Wide Range of Revenue Shares Charged by Competitors, Which Undermines His Claim that AdX Revenue Shares Are Excessive

77. Prof. Simcoe's focus on a single point estimate of the weighted average revenue share across ad exchange competitors over the entire damages period improperly masks the fact that there is substantial variation in revenue shares across geographies, across individual exchanges, and over time. Taking into account this variation, the difference between AdX's revenue share and those of competitors does not appear to be meaningful. Furthermore, at various times during the damages period, AdX revenue shares have been below those of several rivals.

78. Figure 11 below illustrates average monthly revenue shares for worldwide open auction and private auction transactions reported by the competitors considered in Prof. Simcoe's Comparables Approach. The average AdX revenue share of 19.8 percent reported by Prof. Simcoe and the average FAA AdX revenue share of 18.5 percent reported by Dr. Respess are both lower than the rates charged by several competitors at various points during the damages period.

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Figure 11. Worldwide Monthly Average Revenue Shares by Exchange
(Jan. 2016 – Mar. 2023)



Notes & Sources: Gray shaded region represents values within 1 standard deviation of the weighted average revenue share. Graph includes monthly average revenue shares for each exchange considered in Prof. Simcoe's worldwide Comparables Approach analysis, as well as the monthly average worldwide revenue share for AdX and the revenue share charged by AdX to the FAAs estimated by Dr. Respess. *See* Respess Report, Figure 17; Respess Report Errata, Figure 17 (Corrected), estimating the average AdX revenue share charged to the FAAs to be 18.5 percent over the damages period. *See also* Exhibit 11.

79. Further examination reveals the difference between the average AdX revenue share (19.8 percent overall based on Prof. Simcoe's analysis, or 18.5 percent for the FAAs specifically as reported by Dr. Respess) and the weighted average benchmark relied on by Prof. Simcoe (16.2 percent) is small in light of the variation in revenue shares underlying the weighted average

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benchmark. Economists often consider the standard deviation as a measure of the dispersion in individual data points underlying an estimate. Data points within one standard deviation of the mean typically are not considered outliers.¹⁶³ Figure 12 reports the weighted standard deviation around Prof. Simcoe's 16.2 percent benchmark for the January 2019 to March 2023 period and shows that both the average AdX revenue share of 19.8 percent reported by Prof. Simcoe and the average FAA AdX revenue share of 18.5 percent reported by Dr. Respess were less than one standard deviation above the weighted average throughout the damages period. This is illustrated by the gray shading in Figure 11. This analysis reveals that the difference between the average AdX revenue share and the weighted average competitor revenue share upon which Prof. Simcoe bases his Comparables Approach is not higher than what might be expected from factors unrelated to any alleged anticompetitive conduct. Furthermore, as discussed above, Prof. Simcoe's analysis is incapable of determining if these relatively small differences are linked to the challenged conduct.

**Figure 12. Worldwide Comparison of AdX Revenue Share to Competing Exchanges
Weighted Average Revenue Share (Jan. 2016 – Mar. 2023)**

| | Damages Period | | | | | |
|--|----------------|-------|-------|-------|-------|-------------|
| | 2019 | 2020 | 2021 | 2022 | 2023 | 2019 – 2023 |
| AdX Revenue Share | 19.9% | 19.7% | 19.7% | 19.7% | 19.8% | 19.8% |
| AdX FAAs Average Revenue Share | - | - | - | - | - | 18.5% |
| Competing Exchanges Weighted Average Revenue Share | 16.5% | 16.5% | 16.2% | 16.0% | 15.7% | 16.2% |
| Competing Exchanges Weighted Standard Deviation | 4.9% | 5.4% | 4.5% | 4.2% | 4.0% | 4.5% |
| Number of Standard Deviations Above Average - AdX | 0.7 | 0.6 | 0.8 | 0.9 | 1.0 | 0.8 |
| Number of Standard Deviations Above Average - AdX FAAs Average | - | - | - | - | - | 0.5 |

Notes & Sources: AdX (FAAs) Average Revenue Share from Respess Report, Figure 17; Respess Report Errata, Figure 17 (Corrected). 2023 includes data through March. See Exhibit 12.

¹⁶³ Dunn, Peter K., *Scientific Research and Methodology: An introduction to quantitative research and statistics in science, engineering, and health*, RStudio, PBC, 2021, at pp. 205-206.

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80. While Prof. Simcoe's analysis focuses on worldwide transactions, U.S. transactions are a more relevant point of comparison given, among other things, the FAAs' focus on U.S. users.¹⁶⁴ Figure 13 below illustrates average monthly revenue shares for U.S. transactions reported by the competitors considered in Prof. Simcoe's Comparables Approach. The average U.S. AdX revenue share of 19.8 percent¹⁶⁵ reported by Prof. Simcoe and the average FAA AdX revenue share of 18.5 percent reported by Dr. Respass are both lower than the rates charged by several competitors at various points during the damages period.

¹⁶⁴ See discussion in Section V.A.1.

¹⁶⁵ As shown in Figure 12 and Figure 14, over the period from 2019 to 2023, the average U.S. AdX revenue share and the average worldwide AdX revenue share is 19.8 percent.

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D. Dr. Respass's Overcharge Calculations for All Advertisers and All Publishers Are Unsupported

179. In addition to calculating damages to the FAAs, Dr. Respass puts forward calculations for total overcharges to advertisers and publishers worldwide, advertisers in the U.S. and their publishers, and for U.S. government agencies (including but not limited to the eight FAAs at issue in this matter) and their publishers.⁴⁰⁷ For these additional entities, Dr. Respass calculates total overcharges to the advertisers and publishers combined (*i.e.*, he does not apportion the damages specifically to advertisers or publishers).⁴⁰⁸ These calculations are summarized in Figure 15 of the Respass Report.

180. Dr. Respass calculates these overcharges as the difference between actual and but-for AdX revenue shares. Dr. Respass uses the same but-for AdX revenue shares (10.0, 16.2, and 16.6 percent) that he used for his calculation of FAA damages. As I described above, however, none of those revenue shares are reliable estimates of AdX's but-for revenue share. Because Dr. Respass's overcharge calculations depend on those flawed but-for AdX revenue shares, Dr. Respass's calculation of the total overcharge to worldwide advertisers and publishers, to U.S. advertisers and their publishers, and to U.S. government agencies and their publishers are as flawed and unreliable as his calculations of FAA damages.

Date:

January 23, 2024



Judith A. Chevalier

⁴⁰⁷ Respass Report, ¶¶ 22-23, 69-71, Figure 15.

⁴⁰⁸ Respass Report, ¶¶ 22-23, Figure 15.